ON PAGE 5A

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McCracken gunshot-residue test flawed, experts say

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When Robert Saunders, a retired chemist turned state police scientist, took the witness stand at the murder trial of Terry McCracken in October 1983, he impressed the jury with his wit, his wisdom and his down-home charm.

He made them smile when he remarked that it was because of his wife's complaints about him "getting underfoot" that he had gone back to work — first as a college science teacher and then, in 1976, as a criminalist at the Pennsylvania State Police laboratory in Lima.

And he persuaded them, most members of that jury say, that his laboratory testing had shown that McCracken, on trial for a March 18, 1983, killing in Collingdale, Delaware County, had fired a gun that day.

But Saunders made a mistake in his testimony, according to six experts interviewed by The Inquirer, including the California scientist who helped develop the test Saunders used and a supervisor at the FBI crime laboratory in Washington.

That mistake played a large role in the conviction of McCracken, at age 19, for a murder he may not have committed.

McCracken, now 22, has been in Delaware County Prison for more than three years, where he is awaiting Delaware County Judge Robert A. Wright's decision on whether to grant his motion for a new trial or formally sentence him to the mandatory penalty of life in prison. Wright has scheduled a hearing for May 16 on McCracken's motion for a new trial.

In telephone interviews last week, five gunshot-residue experts from across the country said that, based on Saunders' description of what he found in his laboratory analysis, there was no scientific basis for the conclusion he made in court.

Their opinions echoed those of Peter F. Jones, a California scientist who, because he helped develop the test that was used on McCracken's hands, was retained by The Inquirer to review Saunders' report and testimony.

Saunders conducted his analysis using the latest technology for detecting gunshot residue — a method so recently developed, in fact, that in Delaware County, Philadelphia and even Pennsylvania, there probably are few, if any, scientists familiar enough with it to rebut Saunders' findings in court.

"Saunders can and does go virtually unchallenged," said George Fassnacht, a former CIA agent and firearms expert who now works as a private consultant in Philadelphia. "His method is used by very few laboratories, and very few people around here are acquainted with it."

Saunders testified in court that, although he did not find antimony or barium in the samples taken from McCracken's hands, he did locate two spherically shaped lead particles that — based on their size and shape, he said — he identified as gunshot residue.

"That's a most dubious conclusion. ... It's pretty flimsy," said Vincent P. Guinn, a chemistry professor at the University of California at Irvine and developer of one of the three methods of gunshot-residue testing in use today.

"We wouldn't go along with it," said John W. Kilty, chief of the elemental-analysis unit of the FBI crime laboratory. Kilty said that without the presence of barium and antimony — two elements contained in cartridge primer — an absolute determination could not be made.

Declined comment

Saunders and his supervisor at the state police crime lab in Lima, Delaware County, declined to comment on the McCracken case or on gunshot-residue testing in general and referred questions to the state police public-information office in Harrisburg.

A spokesman there said Wednesday that state police now perform all gunshot-residue tests at their crime laboratory in Harrisburg and that they no longer use the method that Saunders employed in Lima.

Saunders' tests, which were conducted with a scanning electron microscope and an X-ray device, were ceased in September when the apparatus broke down.

"We have not repaired it because it's a very expensive proposition," the state police spokesman said.

The spokesman said that he was unable to comment on Saunders' findings in the McCracken case and that he could not supply figures on how many analyses for gunshot residue Saunders had performed or had testified about.

The Delaware County district attorney's office has said that it stands by Saunders' conclusions.

Saunders, 71, who received a doctorate in physical organic chemistry at the Illinois Institute of Technology in 1943, testified in court in 1983 that he had conducted about 250 gunshot-residue tests at the Lima crime lab.

Saunders retired in 1970 from Hercules Inc., a chemical company where he had worked as a research chemist and research supervisor. In 1976, he went to work at the Lima crime lab, which was originally established by Delaware and Chester Counties but was taken over by the state police in October 1982.

McCracken was convicted of second-degree murder on Oct. 25, 1983. Jurors have said in interviews that their verdict was based mainly on Saunders' testimony, a witness' identification of McCracken at the crime scene and the similarity between McCracken's clothing and the clothing that the gunman was described as wearing.

An Inquirer investigation has since raised doubts about McCracken's guilt and about some of the evidence used to convict him.

Took test voluntarily

It was about three hours after David Johnston, 71, was shot during a holdup at Kelly's Deli in Collingdale that McCracken, because of similarities between his clothing and the gunman's, was taken to police headquarters in Collingdale.

There, McCracken volunteered to submit to the gunshot-residue test. A detective, using a kit that contained corks coated with adhesive, took samples from McCracken's hands and sent those samples to the state police crime laboratory in Lima.

Three days later, McCracken was charged with the robbery and killing after a witness — who originally told police that he did not recognize the man he saw fleeing Kelly's Deli after the holdup — changed his story and said the man was McCracken.

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